Modems Get Spiffy New Features

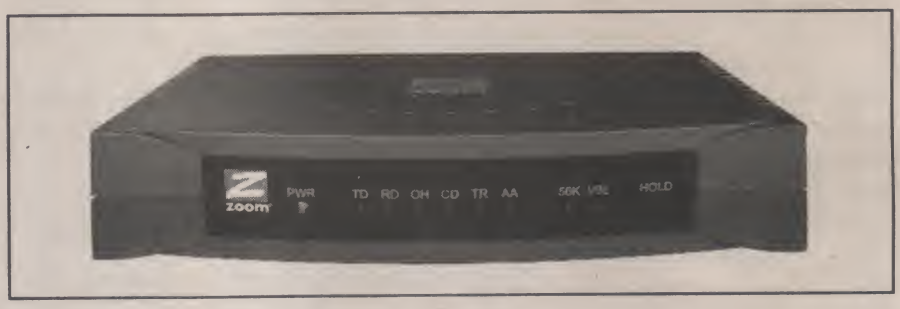
By Kevin Savetz

If you use an analog modem to connect to the Internet, you need all the speed you can get. Despite the ever-growing availability of cable modems, DSL, and other broadband options, almost 80 percent of U.S. Internet users still use 56-kbps modems that download 50 kbps on a good day.

A new modem standard, called V.92, is beginning to make Internet connections for modem users faster and more convenient. Although modems that utilize V.92 have been on the market for more than a year, its adoption by Internet service providers has been slow. Just buying a V.92 modem isn't enough — to use its additional features, your ISP must also upgrade its hardware. None of the nation's large ISPs have committed to doing so — however, local and regional ISPs have been faster to join the bandwagon.

"We are working with at least 50 local and regional ISPs that have deployed V.92 service across the country. But that is a drop in the bucket until one of nationals decides to promote it," said Larry Hancock, marketing director at Zoom Telephonics, a major modem manufacturer.

America Online, Earthlink, MSN, and AT&T WorldNet have not made any announcements regarding support for V.92, although all of the companies are conducting tests of the service. Despite the lack of official support, many users have discovered unofficial V.92 access numbers across the country, as ISPs' backbone providers quietly upgrade their hardware. "We constantly get calls from customers that are using V.92 on AOL," Hancock said. (The Web site Modemsite.com lists ISPs that support V.92 calls.)



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More Speed, New Features

When used with a compatible ISP, V.92 modems add four major features:

• "Modem on-hold" (also known as "Internet call waiting") will be cause for celebration in one-phone-line households. The feature works with the phone company's call waiting feature, allowing you to answer an incoming call when you're online. After you hang up, you can resume with the Internet connection unperturbed.

• "Quick connect" will reduce the time it takes to log in, cutting by half the "training" time in which the modems squeal and beep at each other to establish a connection. The first time your computer connects to your Internet provider, the modem memorizes information about the connection. For subsequent connections, the modem can log in more quickly by relying on what it learned about connecting to that ISP. It's not a dramatic improvement, but will save a few seconds every time you log on.

• Improved compression for faster downloads. Although the new modems have the same maximum download speed as older modems, they use a new compression protocol called V.44 that will make text and HTML download somewhat faster.

• Faster uploads. A technology called "PCM upstream" digitally encodes data that the modem sends, increasing upload speeds to 48K per second. (Today's modems are limited to 33.6K per second.) This will improve the

The mysterious V.whatever naming convention — and the underlying modem protocols — originates in Switzerland, at the International Telecommunications Union, (www.itu.int) an organization that coordinates telecommunications networks and services. Protocols that start with "V." are standards for data communication over the telephone network.

speed of online games, video conferencing, and file uploads.

"V.92 has not yet made it to the masses of the end consumer," said Mark Bayliss, owner of Visual Link Internet, a Virginia-based ISP. Bayliss estimates that about five percent of Visual Link's customers have switched to V.92 since the company began offering the service three months ago. He expects V.92 to become popular quickly, with close to 90% adoption within a year.

Customers' favorite feature is modem on-hold, he said. "Everyone wants more speed but modem on-hold saves them money because they don't have to pay for a second phone line. Customers who had added a data-only line can drop back to a single line, saving about $25 a month.

Taking A Test Drive

"In speed testing we have been thoroughly impressed with V.92 — connection rates have been far superior to V.90," he said. "Customers who were spending money on ISDN lines are seeing about the same performance with V.92. It's blurring the line of where broadband is. It is definitely going to stretch the lifespan of modems for a long time."

We tested two V.92 modems — Zoom model 3049 (www.zoom.com) and U.S. Robotics model 5868 (www.usr.com) — and compared them to a 56K modem using the older V.90 protocol. The two V.92 modems downloaded Web pages more quickly — in part due to improved compression, but also because the V.92 modems were able to connect at faster speeds than the older modem. V.92 seems to better tolerate the eccentricities of phone lines.

Large, text-heavy Web pages typically appeared four to five seconds sooner with the V.92 modem, but there was little difference on graphics-heavy pages. Surfing didn't approach the speed of a cable modem, but was certainly sprightlier than with the older modem.

You may not have to buy a new modem to enjoy the newest features. A free upgrade may be available from the manufacturer.

Modem on-hold popped up an alert window when another call came in (you'll need call waiting and the right software for this to work.) With caller ID, you'll also see the caller's number. If you take the call, you can talk from 30 seconds to 16 minutes, depending on how long your ISP lets you put it on hold.

Because we were testing over a long-distance connection, the quick connect feature did not work in our tests. It requires a local ISP connection, which most Internet users have.

Will This Be Your Last Modem?

Replacing your current, working 56K modem with a V.92 model would be premature, unless your ISP has already upgraded its hardware and you need Internet on-hold or every possible bit of speed. If you plan on purchasing a new modem anyway, it makes sense to buy a V.92-ready model now. It will work with today's V.90 standard. Then, when your Internet provider is ready with V.92, you'll have the hardware.

You may not have to buy a new modem to enjoy the newest features. Some modem manufacturers have released "flash upgrades" that will update certain models to support V.92. (A "flash upgrade" is a simple process that updates a modem's internal software, or firmware.) But most older modems aren't upgradeable, lacking the hardware power to handle the enhanced compression and call waiting features. Visit your modem manufacturer's Web site to find out if an upgrade will be available for your modem.

With the ever-increasing demand for high-speed Internet access and the decreasing cost of broadband services such as cable modems and DSL, analog modems may be living their twilight years. V.92 could be the last great modem standard.

On the other hand, not everyone is ready to abandon the good old analog modem. Unlike DSL and cable, modems rely on common, inexpensive telephone lines. DSL requires you to live near the phone company's central office, and many cable television providers do not offer Internet access. In comparison, modem-based access is boring and unsexy — but also cheaper, simpler, and a good deal more reliable.

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